

What is claimed is:

1. A finger follower rocker arm assembly for variably activating a gas valve of an internal combustion engine having a camshaft having a central lobe and at least one lateral lobe adjacent a first side of the central lobe, comprising:
  - a follower body having a first end for engaging the engine and a second end for engaging a valve stem of the gas valve and having a passage formed in the body between the first and second ends and having a first bore traversing the passage;
  - a central follower configured for engagement with the central lobe and rotatably supported in the passage by a shaft extending through the first bore and;
  - a first lateral follower configured to engage the at least one lateral cam lobe and pivotally supported on the shaft; and
  - a latching mechanism disposed on the follower body for selectively latching the lateral follower to the body to cause the motion of the at least one lateral cam lobe to be translated to the body in a first rocker assembly mode having a first valve lift capability and for unlatching the lateral follower from the body to cause engagement of the central follower with the central camshaft lobe to provide a second rocker assembly mode having a second valve lift capability.
2. The finger follower rocker arm assembly of claim 1 wherein the central follower includes an outer race with a rolling element complement positioned therein between the outer race and the shaft.
3. The finger follower rocker arm assembly of claim 1 wherein the first lateral follower includes a through bore configured to receive and pivot about the shaft, the through bore having a through bore axis co-axial with a shaft axis.
4. The finger follower rocker arm assembly of claim 3 wherein the first lateral follower includes a convex contact surface having an axis of rotation and wherein the axis of rotation is offset from the through bore axis.
5. The finger follower rocker arm assembly of claim 4 wherein the first lateral follower is biased toward a position in which the convex contact surface is radially outward relative to a contact surface of the central follower.

6. The finger follower rocker arm assembly of claim 1 wherein the first lateral follower includes a locking tab configured to be engaged by the latching mechanism in the first rocker assembly mode.

7. The finger follower rocker arm assembly of claim 6 wherein the latching mechanism includes a piston axially moveable between a latched position and an unlatched position.

8. The finger follower rocker arm assembly of claim 7 wherein the latching mechanism further comprises an axially moveable locking bar and wherein in the latched position, the piston moves the locking bar into engagement with the lateral follower locking tab and in the unlatched position, the locking bar is free to move to a nonengaged position relative to the lateral follower locking tab.

9. The finger follower rocker arm assembly of claim 8 wherein the locking bar includes a tapered contact surface.

10. The finger follower rocker arm assembly of claim 7 wherein the piston is configured to directly engage the lateral follower locking tab in the latched position.

11. The finger follower rocker arm assembly of claim 7 wherein the latching mechanism further comprises a rotatable locking pin and wherein in the latched position, the piston rotates the locking pin into engagement with the lateral follower locking tab and in the unlatched position, the locking pin is free to rotate to a nonengaged position relative to the lateral follower locking tab.

12. The finger follower rocker arm assembly of claim 7 wherein a stop ring is positioned about the piston, the stop ring being axially adjustable to control the stroke of the piston.

13. The finger follower rocker arm assembly of claim 7 wherein the piston is biased toward the unlatched position.

14. The finger follower rocker arm assembly of claim 13 wherein the latching mechanism includes a fluid chamber configured to receive fluid to move the piston against the bias toward the latched position.

15. The finger follower rocker arm assembly of claim 14 wherein the follower body includes a spherical socket configured to contact a lash adjuster and wherein the spherical socket is in fluid communication with the fluid chamber.

16. The finger follower rocker arm assembly of claim 1 wherein the first lateral follower is positioned within the passage.

17. The finger follower rocker arm assembly of claim 16 further comprising a second lateral follower positioned within the passage on an opposite side of the central follower and pivotally supported on the shaft, the second lateral follower being configured to contact a second lateral cam lobe.

18. The finger follower rocker arm assembly of claim 17 wherein the first lateral follower includes a first locking tab extending toward the second lateral follower and the second lateral follower includes a second locking tab extending toward the first lateral follower, the first and second locking tabs defining an open area for the central follower.

19. The finger follower rocker arm assembly of claim 1 wherein the first lateral follower is positioned external to the passage.

20. The finger follower rocker arm assembly of claim 19 further comprising a second lateral follower positioned external to the passage on an opposite side of the central follower and pivotally supported on the shaft, the second lateral follower being configured to contact a second lateral cam lobe.